

## ABSTRACT OF THE DISCLOSURE

Semiconductor wafers are held in position within a transfer chamber as it is subjected to pressurization and depressurization during transfer of the wafers between ambient atmosphere and an inspection chamber which is maintained at vacuum pressure. The transfer chamber is interposed between the ambient atmosphere and the inspection chamber. A paddle is arranged in the transfer chamber and has a wafer-receiving surface with openings formed therein adapted to be covered by a wafer. A vacuum actuated system draws the wafer to the wafer-receiving surface of the paddle by providing suction at the openings. Since the wafer is thus drawn to the paddle, the wafer is securely retained on the paddle during depressurization and repressurization of the transfer chamber. To further inhibit motion during repressurization, gas is backfilled into the transfer chamber through a diffuser as a laminar flow.